(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property **Organization** International Bureau



534881

(43) International Publication Date 10 June 2004 (10.06.2004)

PCT

(10) International Publication Number WO 2004/048109 A1

(51) International Patent Classification7:

B41J 2/05

(21) International Application Number:

PCT/AU2003/001515

(22) International Filing Date:

17 November 2003 (17.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10/303,433 23 November 2002 (23.11.2002)

(71) Applicant (for all designated States except US): SILVER-BROOK RESEARCH PTY LTD [AU/AU]; 393 Darling Street, Balmain, NSW 2041 (AU).

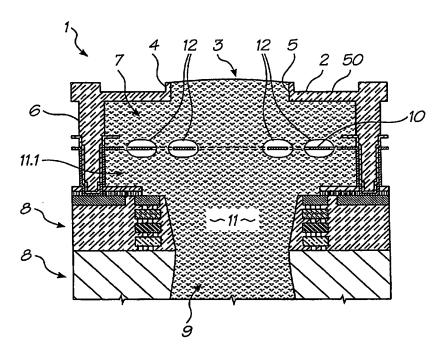
(72) Inventors; and

(75) Inventors/Applicants (for US only): SILVERBROOK, Kia [AU/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, NSW 2041 (AU). NORTH, Angus, John [AU/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU). MCAVOY, Gregory, John [IE/AU]; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, New South Wales 2041 (AU).

- (74) Agent: SILVERBROOK, Kia; Silverbrook Research Pty Ltd, 393 Darling Street, Balmain, NSW 2041 (AU).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: THERMAL INK JET PRINTHEAD WITH SYMMETRIC BUBBLE FORMATION



(57) Abstract: An ink jet printhead (1) which a plurality of nozzles (3) and one or more heater elements (10) corresponding to each nozzle. Each heater is configured to heat a bubble forming liquid in the printhead to a temperature above its boiling. Each heater element has two opposite sides and is suspended within the chamber (7) below the nozzle. The gas bubble is formed at both sides of the heater.



Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.